



MECN 430

Microeconomic Analysis

Winter 2017

Professor **Georgy Egorov**
Office: Jacobs 539
E-mail: g-egorov@kellogg.northwestern.edu

Course Overview

Why are markets commonly believed to be the best way of allocating resources and organizing economic activity?

Why do governments intervene in markets and regulate them in fundamental ways?

This course will answer these two critical questions while examining their implications for pricing, price leadership, capacity management, market entry and exit, and other key business strategies. Importantly, we will see that competition is fundamental to understanding why markets may function well, and hence business strategy must account for the impact of competition if a business is ever to make money. We will also understand when to expect governments to intervene in markets because markets fail or because the government had been persuaded to intervene by some key stakeholder. Businesses require the ability to understand, forecast and influence government intervention in their industry. More specifically, by the time you complete this course:

1. You will learn how to construct fact-based, logically grounded *analysis of major strategic bets in hypercompetitive markets*. We will develop the concepts of *short-run and long-run supply curves* and relate them to costs.
 - This will allow you to make educated conjectures about the path of prices in such markets, predict the range and magnitude of price fluctuations, and conduct financial evaluation of strategic decisions such as capacity expansion or new market entry.
 - It will help you to understand when prices might be subject to a bubble.

2. You will learn how to **identify the cost categories** that are relevant for critical business decisions such as supply, capacity abandonment and exit, and new market entry.
 - The typical costs of a business fall into numerous categories, and mistakes in identifying which of these categories truly matter for a decision at hand can lead to outcomes that impair a business's competitiveness and destroy profitability.
3. You will learn the basics of **game theory**: how to represent strategic interactions between firms in markets as games and how to determine the outcome of such games using Nash equilibrium.
 - We will use game theory to understand strategic moves key industry players can execute to change the nature of their industry and create win-win environments via **price leadership**.
 - Sometimes an industry will be win-lose and we will use game theory to study how to win in those settings.
4. You will learn how the interplay between cost and demand fundamentals **determine profit-maximizing pricing decisions**.
 - Pricing is one of the most important business decisions and an understanding of the role of economic fundamentals can translate directly into more profitable pricing decisions.
5. You will learn when **markets fail**.
 - We will define and explore the key concept of **externalities** and study how it underlies everything from global warming to national defense to technology adoption. We will study how business strategy in such environments can influence the evolution of the entire market and create and capture significant value.
 - We will define and explore the key concept of **adverse selection**. Healthcare and finance are key sectors of the economy where markets can fail because of adverse selection. You will understand how **cream-skimming** can capture value
6. You will be able to understand and even forecast how **government interventions** help shape prices and the distribution of value in competitive markets.
 - We will learn that **taxes and subsidies** can be used to increase total value from trade when there are market failures. You will get some insight into how and why a government might intervene in your industry.
 - You will also learn that there is **government failure** and government intervention can reduce value and create winners and losers. This can help you spot opportunities for using institutions in the non-market environment of your business to capture additional value or prevent the capture of value at your expense by others.

Weekly Class Preparation

The material to be prepared each week is detailed in the tentative course outline below. In addition to required readings, the outline contains three types of assignments: exercises, homework assignments, and cases. Each category requires a different type of preparation, as follows:

Exercises

Class discussion will draw heavily on these, and so you are required to thoroughly familiarize yourself with the content of these exercises *before* coming to class. Each student should go over the

exercise and prepare either a written sketch of a solution or a written account of the difficulties that prevented you from reaching such solution. Answers to exercises will **not** be collected or graded.

Team and Individual Homeworks

A written answer is required to be submitted at the beginning of class in which the homework is due. Graded homework is usually returned a week after they are collected. When no homework or exercises appear in a given session then none are required.

Cases

You are required to prepare all cases covered in this course. Most cases are preceded by a set of discussion questions that should guide you in your preparation.

Current Affairs

The current affairs readings posted on Canvas provide illustrations of the ideas in class in contemporary cases. They are **OPTIONAL**. They may be referred to in class if time permits. They are interesting to read after class to see if you understand class concepts.

Kellogg Honor and Etiquette Codes

The Honor Code requires that a student not seek an unfair advantage over other students, including but not limited to giving or receiving unauthorized aid during completion of academic requirements; to truthfully represent fact and self at all times; and to respect the property and personal rights of all members of the Kellogg community. I will interpret the honor code in the following ways in this course.

Exams: You may study for exams with others. However, once the exam has begun, you should have absolutely no communication about the exam with anyone inside or outside the class. You will be allowed to bring in one 8.5 x 11 inch, double-sided sheet of notes to the midterm. You may bring an additional such sheet to the final.

Homework: Some assignments are individual and must be completed without help from others. Others are group assignments and must be done with members of your group only. Do not consult with others who have already taken the course or use their submissions.

If you have questions about whether behavior is within the bounds of honorable behavior, please ask. The watchword should be: when in doubt, ask.

The Etiquette Code: Students are expected to respect Kellogg's Code of Student Etiquette at all times.

- **No electronics.** You may not use **laptops, mobile phones, tablets**, or related devices in class unless directed to do so. It is distracting to your classmates to sit beside or behind you while you surf, text, or game.
- **Punctuality and Behavior.** Class will start on time. It is distracting to your classmates for you to be climbing to your seat and settling in while they are trying to pay attention to the class. If you are absent or late more than twice, it will reduce your class participation grade. Also, *leaving then returning during class is disruptive* and should occur only in emergencies.

- **Seating chart.** Your assigned seat for the quarter will be the seat you choose for the second class session. I use assigned seats to help me keep track of class discussion, and also to have a place to direct prospective students and visitors to sit.
- **Beverages and snacks.** You are welcome to bring something to drink to class. Don't bring food into class.

Course Materials

1. **Optional Textbook:** Besanko, David and Ronald R. Braeutigam, *Microeconomics: An Integrated Approach*, New York, John Wiley & Sons, 2007, third edition. **There is a newer fourth edition but it is expensive and the new material is not relevant for the course. If you want a textbook, you should buy a *used third* edition from, say, Amazon:**
http://www.amazon.com/gp/offer-listing/0470049243/ref=sr_1_1_olp?ie=UTF8&qid=1320685145&sr=8-1&condition=used
 All the page numbers and references below relate to the third edition but feel free to ask if you want help mapping into the relevant material in the edition you have.
There is also an online textbook that may be useful:
<http://www.kellogg.northwestern.edu/faculty/dale/icav21.pdf>
2. **Case Packet (REQUIRED):** The case packet for the course contains cases and some of the other required readings.
3. **Canvas** I will upload other material in the syllabus but not in the case packet onto the course page on Canvas. This is to keep down the costs of the case packet. Slides and notes from class will also be made available on Canvas.

The textbook should be available at the Bookstore before the first class, and the case packet will be available on Study.Net (printed copies can be requested and picked up at Quartet).

Attendance and Class Participation

Attendance, preparation, and participation are expected and represent an essential component of the learning experience in this course. I evaluate class participation based on the ***quality of participation***, not its "quantity." You should provide insights, observations, inferences, or conclusions that not only express your viewpoint, but also defend your analysis. Your comments should be relevant to the topic at hand, and should advance the discussion. A simple opinion or viewpoint is not very valuable without any justification. I value comments that respond to, elaborate on, lend support to, contradict, or correct a comment by one of your classmates. Counter-productive comments include opinions without a justifying argument, pure repetition of previous points, class interruptions that do not advance the discussion and rambling, vacuous or disparaging comments.

I will cold call in class, both to give you an incentive to prepare for class, and to make sure the discussion does not collapse to a handful of students. At a minimum, everyone in class should be prepared to answer all of the preparation questions handed out in advance.

Missing class: Class attendance not only provides an opportunity to participate in the discussion but to learn fundamental material. **If you miss class or are late more than twice, it will lower**

your class participation grade. (Kellogg provides exceptions for religious holidays, funeral attendance, and student/dependent hospitalization.) If you must miss class, you should do the readings, prepare, and turn in the assignments on time (late assignments will not be accepted), and arrange to get notes from a friend about what you missed in class. Recall that I will post the presentation slides (and anything else that I hand out in class) on the course page on Canvas following each lecture. Excessive absences will affect your final grade even more dramatically.

Grading Components and Guidelines

Course score before adjustments:

This score is based on the following components:

1. In class midterm exam, 40%
2. In-class final examination, 50%;
3. Homework assignments, 10%.

The result is your ***course score before adjustments***.

For each student the higher of two scores is used in the final course grade:

1. The score based on the percentages above; and
2. The score with the same weights for homework, but where the final exam counts for 90% and the midterm carries no weight.

This means that the midterm will count only if it can help improve your overall position.

Class participation adjustment: Based on contributions to class discussion, the grade may be adjusted to reflect class participation.

Adjusted course score: I will take the score before adjustment and add to it participation adjustments to obtain the adjusted course score. Your final letter-grade in this course will be based on this adjusted score.

Midterm and Final Exams Dates and Guidelines

In-class Midterm: TBD

In-class Final: TBD

IMPORTANT:

The ***mid-term*** will not be offered at any other time and for any reason other than a documented medical condition. No exceptions are made for any other reasons.

The final exam will be given during the Winter Quarter 2016 Final Exam Period, which runs from the morning of Saturday, March 12 through the afternoon of Thursday, March 17. The precise

date(s)/time(s) for the final exam will be determined in the first few weeks of the winter quarter. All students should plan on taking the final exam during the six-day exam period. Any students with concerns regarding this policy should contact Assistant Dean Lesley Kagan Wynes.

How to study for this course

This course aims to give you a fundamental understanding of microeconomics and to apply this knowledge to business decision-making. We do this by introducing new material every week with associated homework assignments. You need to pay constant attention to understand the key ideas and get the most from the course. Here is my advice on how to do this:

Come to class prepared. If you “wing it”, you won’t “bring it” and will get little out of the course. You must read the cases and attempt the exercises before class to do well.

Engage in class discussion. Class time is not entertainment, and you shouldn’t expect to just sit back and listen. Engaging means both listening critically to what other people are saying in order to evaluate whether you think their arguments are right, and speaking up when you think you have something to contribute.

Practice. When you read the newspaper or see interesting articles on the web, use the fundamental microeconomics you are learning to understand the issues at a deeper level and come up with your own critical ideas (and feel free to discuss those with me). The homework assignments will also help you to do this. They will also prepare you for the exams so you should take them very seriously. Before exams, extra practice problems will be posted on Canvas and you should do them too.

Course Outline

Homework assignments are due at the beginning of class each week unless specified otherwise.

WEEK 1: COURSE INTRODUCTION - In-Class Experiment, Consumer and Producer Surplus, Fairness, and Social Responsibility

Readings:

- Al-Najjar, N.I. and D. Besanko, “Note on Consumer Surplus,” Kellogg School of Management.
- Besanko, D., “Note on Producer Surplus,” Kellogg School of Management.
- (Optional) Besanko, D., “Note on Economic Profit,” Kellogg School of Management.
- (Optional) Besanko, D. and R. Braeutigam, *Intermediate Microeconomics: An Integrated Approach* (hereafter B & B), Chapter 1, Chapter 2, Section 2.1 (here and below you only need read these sections, not the whole chapter); Chapter 10, Section 10.1 only “Invisible Hand” part.

WEEKS 2 and 3: FREE MARKETS - Hypercompetitive Markets, Cost Fundamentals, and Business Strategy in the Short-Run and the Long-Run

Homework 1 (individual) due, week 3

Cases:

- **Besanko, D. and A. Copelevitz, “Capacity Expansion in the Global Aluminum Industry, 2006”.**

Readings:

- Baliga, S. and N. Persico, “Note on the Microeconomics of Cost,” Kellogg School of Management.
- (Optional) B & B, Chapter 2, Sections 2.1 – 2.4, Chapter 9, Sections 9.1-9.3

WEEK 4: MARKET POWER: Pricing

Homework 2 (group) due, week 4

Readings:

- (Optional) B & B, Chapter 11, Sections 11.1 – 11.3 and 11.5.

WEEK 5: MARKET POWER: Price Customization

Homework 3 (individual) due

Readings:

- (Optional) B & B, Chapter 12, Sections 12.1 – 12.4; also mathematical appendix A1-A5 that covers derivatives.

**WEEK 6: Midterm; MARKET POWER: Price Customization
Continued**

WEEK 7-8: REPEATED GAMES; COMPETITION IN OLIGOPOLY

Homework 4 (individual) due Week 8

7.1 Price Leadership and anti-trust

Case:

- Baliga S. and N. Persico, “Budorona”, Kellogg School of Management, 2013.

7.2 Pricing and Product Differentiation

Class Experiment:

- Al-Najjar, N.I., “Experiment on Price Competition,” Kellogg School of Management. *(to be passed out in class).*

Exercise:

- **Besanko, D.: “Heinz vs. Hunts in the Market for Catsup,” Kellogg School of Management.**

Readings:

- (Optional) B & B, Chapter 13, Sections 13.1-2 and 13.4

WEEK 8: MARKET FAILURE - Externalities, Congestion and Pollution; Game Theory Introduction; Technology Adoption, Standardization and Compatibility.

Case:

- Besanko, D. and J. Horner, “London’s Congestion Charge” Kellogg School of Management
- Subramanian, G. and M. Kalka, “Price-Fixing Vignettes,” Harvard Business School.

Readings:

- (Optional) B&B, Chapter 14, Chapter 17, Sections 17.1-17.2
- (Optional) Besen, S. and J. Farrell (Spring 1994). Choosing How to Compete: Strategies and Tactics in Standardization. *Journal of Economic Perspectives.*

WEEK 9: PUBLIC POLICY AND PRIVATE ENTERPRISE: Price Fixing; Winners and Losers from Government Intervention; Influencing Policy.

Homework 5 (group) due the second class of Week 9

Exercise to prepare for class discussion (not to hand in):

- Besanko, D. and J. Horner, “The Economic Impact of U.S. Cotton Subsidies,” Kellogg School of Management.

Readings:

- (Optional) B&B, Chapter 10, Sections 10.5-10.6, 10.8

WEEK 10: MARKETS AND INFORMATION; CAPSTONE CASE

10.1 Markets and Information: Financial Markets, Credit Cards and Healthcare

Readings:

- S. Baliga , “Notes on Adverse Selection.”

10.2 Market Restructuring and Deregulation: the Market for Power in California

Case:

- Al-Najjar, N, and D. Besanko, “The California Power Crisis,” Kellogg School of Management.